

**PROBLEMS AND PROSPECTS OF
SUGAR INDUSTRY
IN
UTTAR PRADESH**

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Sugar industry has become one of the major agro-based industries in India since the colonial days. During the colonial rule, this industry was promoted with a view to commercialising agriculture so that the peripheral area would be linked with urban market through money commodity relations. Hence the limited purpose to promote sugar industry could not take a comprehensive view for its development and the administration of the British merchant capital retained its forced commercial character leading to a dual structure of sugar production - capitalist and pre-capitalist. Moreover the forces of trade and commerce could not make this industry more than a commercial enterprise - being a subject to the role of market forces. In course of time, sugar became one of the major items for mass consumption. But the commercial character of this industry being a subject of market forces made its production fluctuating in character. However in free India some efforts were made to promote sugar industry as an integral part of industrial development in particular.

Since the inception of planning in India in 1951, there has been a gradual extension in the area of intervention in the industry coupled with kaleidoscopic change in government policies towards the industry. The government has been prompted to bring the industry under effective control on account of the fact that

its product is an essential item of mass consumption. In addition, the price of the item is highly sensitive to the conditions of demand and supply which themselves are subject to seasonal fluctuations.

During the era of planned development of the economy, the industry made substantial progress. Total sugar production which stood at 11.18 lakh tonnes in 1950-51 rose to 64.16 tonees in 1977-78, a record production in the current decade. The total number of factories in operation rose from 138 to 287 during the same period. The growth trend has been concomitant with some interesting structural changes. In the recent past, there has been a marked trend in the locational pattern of industry in favour of southern and western regions, particularly Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh and Kerala and production efficiency in the southern and western sugar mills is higher than those in the north.

II

Sugar industry occupies an important place in the Uttar Pradesh's economy. There were 88 sugar factories in Uttar Pradesh in 1978-79, out of 299 sugar mills in India. Out of these 88 sugar factories, 15 were in the cooperative sector. In cooperative sector one sugar mill introduced at Nanauta (Saharanpur) in the year 1978-80 and thus total number of sugar mills rose to 89 in Uttar Pradesh. Sugarcane is the basic requirement for the sugar industry. As a matter of fact, sugarcane is an important cash crop and sugar industry is the most important source to provide ready cash to the farmers, sugarcane

being the main input in the sugar factories. The production of this input facilitates them to purchase modern inputs for increasing agricultural production and for creating capital assets as also for meeting other pressing requirements.

Although sugar factories are having so many problems in the state such as the average quantity of cane crushed per day by the sugar factories is lesser than their crushing capacity, irregular supply of the required cane to the factories, average sugar recovery is small as compared to the other states. Sugar production in the factories is not upto the mark and the management of the factories is not as effective as it should be, despite sugar industry being predominant one in the state and the second place in India. During 1975-78, sugar production in U.P. was 29 per cent of the corresponding production in India. As far as the quantity of sugar produced in India is concerned, Maharashtra occupied the first position among all the states and U.P. ranked second position in this respect. As sugarcane is the main input for the sugar factories and sugarcane production is directly related to the production of sugar, it is necessary to have a view of the inter-state position of per hectare yield of sugarcane. Tables 1 to 8 reveal this position showing average yield of sugarcane in the important sugarcane growing states. Among all the states and union territories, U.P. ranked second with respect to the sugar production and occupied ninth place among 14 important sugarcane growing states in India. When considered from the point of view of per hectare yield U.P. in 1977-78 was 46.93 tonnes which was lesser than half of that in Tamil Nadu 101.77 tonnes and much lesser than that in Maharashtra 94.80 tonnes, Andhra Pradesh 76.02 tonnes, Karnataka 68.67 tonnes.

The data also show that Tamil Nadu which ranked fourth in the inter-state position of sugar production in the country, ranked first with respect to per hectare yield among the important sugarcane growing states in the country. Likewise the per hectare yield in U.P., Bihar, Haryana, Punjab, Maharashtra, Andhra Pradesh, Karnataka and Tamil Nadu were 38.29 tonnes, 30.26 tonnes, 36.05 tonnes, 56.54 tonnes, 92.14 tonnes, 67.25 tonnes, 83.85 tonnes and 104.22 tonnes respectively during the year 1978-79.

The plant of the factory is capable of crushing per day, maximum cane is the indication of crushing capacity of a sugar factory where as the cane crushed per day by a factory denotes the average quantity of cane actually crushed per day, during the season. During the period 1971-77, the total quantity of cane crushed in India was 25.29 lakh tonnes. The quantity of cane crushed by the sugar factories of U.P. during 1971-77 was 7.99 lakh tonnes, constituting about 32 per cent of the total cane crushed by all the sugar factories of the country during the same period. It is encouraging to note that the maximum quantity of cane crushed was through factories located in U.P. In this respect the state of Maharashtra stood second, where the total cane crushed was 7.02 lakh tonnes, comprising about 22 per cent of the total cane crushed by all the sugar factories of the country. Both the states, Uttar Pradesh and Maharashtra, accounted for about 60 per cent of the total cane crushed in India. A perusal of the year-wise figures indicate that the total cane crushed during the period 1971-77 witnessed an erratic trend. The quantity of cane crushed had a steady increase upto 1974-75, but declined substantially in 1975-76 (4.19 lakh tonnes) from 4.84 lakh tonnes in 1974-75 which was even lesser than that in 1973-74 (4.23 tonnes).

The percentage recovery of sugar from the cane crushed from any type of sugar producing unit concern, whether it is OPS (open pan system) properly known as Khandsari or VPS (vacuum pan system) - white sugar factory is an important indicator of the efficiency of the technology and management of the concerned unit. A high percentage of sugar recovery shows not only increase in profit of the factory but also higher returns to the cane growers, this is due to direct linkage of the price of sugarcane with a given recovery percentage and payment of premium on a higher percentage of recovery. It may be mentioned in this context that the minimum price of sugarcane payable by factories is being fixed since the year 1950-51. The main objective for fixation of the minimum price of sugarcane is to ensure remunerative prices to the cane growers and to promote stability of production of sugarcane. The minimum prices are fixed having regard to various factor including recovery of sugar from cane. One of the main problems of sugar factories located in U.P. is that the actual quantity of cane crushed by the factories is much lesser than their crushing capacity and thus there is a large scope for utilisation of existing crushing capacity which would obviously result in more production of sugar and would also substantially increase employment opportunities. As far as inter-regional performance differences are concerned, the maximum utilisation of existing capacity was observed in case of factories located in the hill region followed by western and central regions. The capacity utilisation was lowest in the eastern region which required the need of taking the necessary remedial measures. As an outcome of these measures, two types of advantages are expected. Firstly, producing the permanent and casual employment to the

residents of the economically backward area, where the problem of unemployment and under-employment is acute. Secondly, increasing the production of the existing factories along with attraction of entrepreneurs to establish sugar factories in the area. It is clear after analysis of sugar recovery that the recovery percentage in U.P. was much lower than Maharashtra, Karnataka and Gujarat. It was found to be lower than the all India average also. So there is an urgent need for making efforts to increase output considerably to increase sugar recovery percentage in the state, especially in case of those factories which had much lower percentage (about 7%). This will substantially improve the economy of the sugar factories and may fetch higher returns to the cane growers. The highest average recovery during the period 1971-80 was found to be 9.80% in U.P. as against 11.28% in Maharashtra (Table 1 & 5).

The sugar industry accounts for 26.6% of the total workers of the total industries of organised sector. As far as employment concern this industry provide direct and indirect employment through complementary activities/industries relating to this industry.

III

The above discussion made in the forgoing pages concludes that there are so many problems attached with the sugar factories in U.P. Despite the total number of sugar factories are more in the state than any other state, the production-wise U.P. stands second in India. The average quantity of cane crushed per day by the sugar factories in the state was marked lesser than their crushing capacity, which is certainly a waste of limited resources

of the state. The lesser utilisation of the capacity may be attributed to the fact that the plant of the sugar factories in the state are by and large too old as the factories in the state had been installed as early as more than 50 years back and there are frequent break downs resulting in lesser crushing of cane even if cane is available at the factory gate in the required quantity. Second reason for the lesser utilisation of crushing capacity is the irregular supply of the required cane to the factories. Two main factors are responsible for this. Firstly operation of the factories is not confined to a compact area but is spread over a large area, some of these being too far away from the factories. Because of non-availability of transport to carry cane from fields to the factory gate at the appropriate time. Another factor responsible for irregular supply of cane is existing competition between sugar factories, khandsari and gur units. If the cane price paid by gur and khandsari units is higher than the price paid by sugar factories, the cane growers prefer to direct their supply to the gur and khandsari units from sugar factories. Average sugar recovery during the five year period, under review has been only 9% which was much lower than recovery achieved by other states such as Maharashtra, Karnataka, Andhra Pradesh and Gujarat. It was also lower than the all India average. Among the different regions of the state the factories located in the eastern of U.P. had the poorest performance from the point of view of sugar recovery. Regarding the reasons for poor recovery it may be said that the plants of most of the sugar factories are old (especially of the factories of eastern region) as the factories in the state were established long ago (more than 50 years ago). The lower efficiency of these plants

coupled with frequent machinery break-downs bring down the sugar recovery. Another reason for lower sugar recovery in this state as compared to others like Maharashtra, Andhra Pradesh, etc. is due to the fact that the areas having tropical climate are ecologically well suited for the cultivation of sugar cane, as also for higher sugar recovery, since temperature in these areas remains almost the same throughout the whole year, as compared to U.P. where wide variation in temperature exists. Major portion of total cane in the state is usually crushed in the months of April and succeeding ones obviously bringing a much lesser sugar recovery because of higher inversion.

There is, thus, an imperative need for evolving a sound sugar policy which is vital not only for the accelerated development of the economy and sugar production but also for the welfare of massive number of cane growers in the state and for those employed in the industry, especially the labourers, who, by and large, belong to the weaker sections and hail from backward pockets of the state. For efficient and effective working of the sugar factories it is suggested that the top executives in cooperative and government owned factories should necessarily be a well qualified technical hand, having requisite knowledge and experience of sugar technology, business management etc. It is vital that these categories of factories must be managed as an entrepreneurial concern and the outlook of the people who matter in the working of these factories, has to be oriented accordingly.

As far sugar production is concerned it witnessed to an erratic trend. This is largely because twin factors of decrease in cane area diversions of cane to gur and khandsari units on

account of higher price that cane growers are able to get from those units than that fixed for sugar factories. There is thus need for fixing the price of cane payable by the sugar factories and such a level which may serve the twin purpose of making available remunerative price to the cane growers and adequate economic returns to the factories and may also check the diversion of cane to gur and khandsari units and thus ensure adequate supply of cane to factories.

The yields per hectare of sugarcane in the state is much lower than a number of states. This is because of distressingly low level of use of fertiliser and irrigation. To elaborate it may be stated that the minimum requirement of fertiliser to the cane crop is 55 kg. per hectare, whereas in U.P. the average consumption of fertiliser even in the reserved areas is only 22 kg. Similarly in case of irrigation only 30-40% of the area is covered under productive irrigation. More outlay needs to be allocated to state irrigation works so that irrigation is available to the cane growers in the required quantity.

IV

In the aforesaid background some main steps are suggested and listed below which may be considered for implementation :

1. There is immediate need for the modernisation and rehabilitation of old plants, especially of the factories located in the eastern region which should have been done long back. Even new factories require scientific management of manpower, which may go a long way in fuller utilisation of crushing capacity.

2. While examining the proposal of establishing new sugar factories, it is essential to critically assess the allocation of funds for modernisation and rehabilitation of existing factories and that for establishing new ones keeping in view the fact that the utilisation of the existing ones is much lesser than their crushing capacities.

3. There should be a statutory provision so that the crushing season is confined only to the peak recovery period. Pest and disease control measures need to be taken on a massive scale, as the recovery is lesser in disease affected plants.

4. Necessary steps should be taken to ensure regular supply of required cane to the factories. The operation area of factories should be a compact one and should not be spread over to a large area far away from the factories. Arrangements should be made for quick transport of cane including construction of approach roads, so that there is timely supply of the fresh cane in the requisite quantity.

5. Financial assistance should be provided to the cane growers, especially to the economically weaker ones for possessing their own transport.

6. Water logging problem in the cane areas have to be resolved, as it adversely affected the quantity of cane and in turn sugar recovery. A very efficient soil drainage system has been one of the important factors leading to higher recovery percentage in Maharashtra.

7. Sugarcane price should be fixed by the government in such a manner that there is not much diversion of cane to gur and khandsari units, so that the required quantity of sugarcane is available to the sugar factories.

Table 1 : Sugar Industries in U.P. (Sub Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recov- ery	Sugar produ- ced 000 tonnes	Sugar consumed 000 tonnes
1971-72	73	1274	49354	38.74	8815	17.86	9.48	831	480
1972-73	73	1308	56727	43.37	14075	24.81	9.51	1339	443
1973-74	74	1473	60773	41.26	14421	23.73	8.99	1296	490
1974-75	74	1492	61479	41.21	15170	24.68	9.43	1431	498
1975-76	77	1441	56359	39.11	12195	21.64	9.54	1164	427
1976-77	79	1456	65616	44.79	15173	23.27	9.80	1471	454
1977-78	85	1637	76819	46.93	20544	26.74	9.06	1862	582
1978-79	88	1635	62612	38.29	15764	25.18	9.28	1463	648
1979-80	89	1360	-	35.00	10203	-	9.35	997	674

Table 2 : Sugar Industries in Bihar (Sub Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recovery	Sugar produced 000 tonnes	Sugar consumed 000 tonnes
1971-72	25	142	4465	31.44	1696	37.98	8.85	150	202
1972-73	25	134	4753	35.47	2343	49.30	9.21	216	193
1973-74	26	139	5157	37.10	2554	49.52	8.72	223	198
1974-75	28	141	5568	39.49	2452	44.04	8.63	212	187
1975-76	27	134	4907	36.62	1951	39.76	9.06	177	221
1976-77	27	128	4178	32.64	2157	51.63	9.24	199	212
1977-78	28	139	4958	35.67	3118	62.89	9.16	286	287
1978-79	28	138	4176	30.26	2814	67.39	8.86	258	297
1979-80	28	115	-	32.68	1806	-	9.11	165	316

Table 3 : Sugar Industries in Haryana (Sub Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recovery	Sugar produced 000 tonnes	Sugar consumed 000 tonnes
1971-72	3	114	5140	45.09	777	15.12	9.33	73	104
1972-73	3	136	6000	44.12	1031	17.18	8.80	91	85
1973-74	3	150	5930	39.53	1192	20.10	7.89	94	95
1974-75	3	161	5910	36.71	1275	21.57	8.97	114	90
1975-76	3	158	6870	43.48	1153	16.78	9.29	107	90
1976-77	5	168	7280	43.33	1223	16.80	9.28	112	98
1977-78	5	196	8970	45.77	1802	20.09	8.22	148	123
1978-79	5	190	6850	36.05	1532	22.36	8.69	133	128
1979-80	5	128	-	31.10	977	-	9.35	191	133

Table 4 : Sugar Industries in Punjab (Sub Tropical Region)

Year	No. of Sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recov- ery	Sugar produ- ced 000 tonnes	Sugar consumed 000 tonnes
1971-72	6	103	4030	39.13	357	8.86	8.75	32	273
1972-73	6	103	4690	45.53	514	10.96	8.09	42	217
1973-74	6	112	5820	51.96	805	13.83	8.32	67	230
1974-75	6	123	6150	50.00	857	13.93	9.06	77	211
1975-76	6	144	6130	42.57	963	15.71	8.52	82	218
1976-77	6	113	6070	53.72	940	15.49	9.12	86	221
1977-78	6	116	6520	56.21	1100	16.87	9.01	99	251
1978-79	6	107	6050	56.54	994	16.43	9.43	94	292
1979-80	6	90	-	37.30	515	-	10.10	52	283

Table 5 : Sugar Industries in Maharashtra (Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recov- ery	Sugar produ- ced 000 tonnes	Sugar consumed 000 tonnes
1971-72	42	182	11494	63.15	9044	78.68	11.08	1002	649
1972-73	47	146	11918	81.63	10056	84.38	10.68	1074	572
1973-74	45	165	12943	78.44	8942	69.09	10.69	957	571
1974-75	52	185	17178	92.85	13566	78.97	11.27	1515	581
1975-76	55	212	18870	89.01	14255	75.54	11.28	1605	610
1976-77	61	241	21499	89.21	14332	66.66	10.85	1559	596
1977-78	66	246	23320	94.80	19245	82.53	10.90	2096	703
1978-79	69	244	22482	92.14	19236	85.56	10.95	2105	867
1979-80	70	224	-	89.30	13150	-	10.60	1394	897

Table 6 : Sugar Industries in Andhra Pradesh (Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recov- ery	Sugar produ- ced 000 tonnes	Sugar consumed 000 tonnes
1971-72	18	119	10571	88.83	2940	27.81	10.25	320	172
1972-73	19	134	9917	74.01	2844	28.68	8.96	255	171
1973-74	17	144	10907	75.74	2977	27.29	9.50	283	164
1974-75	20	195	11496	58.95	3938	34.26	10.07	397	173
1975-76	20	147	10332	70.29	3290	31.84	9.91	326	190
1976-77	22	145	10281	70.90	3064	29.80	9.26	283	186
1977-78	23	169	12847	76.02	4620	35.96	8.78	405	254
1978-79	26	141	9482	67.25	3433	36.21	9.07	311	260
1979-80	26	127	-	74.80	2329	-	8.57	199	292

Table 7 : Sugar Industries in Karnataka (Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recov- ery	Sugar produ- ced 000 tonnes	Sugar consumed 000 tonnes
1971-72	13	107	8776	82.02	2244	25.57	10.79	242	169
1972-73	13	104	8458	81.22	2914	34.45	9.83	286	159
1973-74	14	110	8563	77.85	2852	33.31	10.16	284	169
1974-75	17	121	8629	71.31	3124	36.20	10.89	336	170
1975-76	19	129	9719	75.34	3398	34.96	10.67	361	167
1976-77	19	145	9985	68.86	4171	41.77	10.09	421	177
1977-78	21	169	11606	68.67	5703	49.14	9.87	571	220
1978-79	21	141	11823	83.85	4814	40.72	10.12	487	236
1979-80	23	131	-	66.10	2710	-	10.02	271	276

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Table 8 : Sugar Industries in Tamil Nadu (Tropical Region)

Year	No. of sugar mills	Area under cane 000/ha.	Total cane produced 000 tonnes	Av. cane yield tonnes/ ha.	Cane crushed 000 tonnes	Per cent cane crushed	Sugar recov- ery	Sugar produ- ced 000 tonnes	Sugar consumed 000 tonnes
1971-72	16	117	9636	82.36	3262	33.85	9.17	299	235
1972-73	16	144	11213	77.87	4008	35.74	8.38	331	196
1973-74	16	186	18298	98.38	5287	28.89	3.38	443	210
1974-75	17	160	14593	91.21	4556	31.22	8.43	384	208
1975-76	16	128	11936	93.25	1970	16.50	9.23	182	232
1976-77	19	155	14246	91.91	3792	26.62	8.49	322	235
1977-78	20	167	16995	101.77	5458	32.12	8.55	466	316
1978-79	20	172	17925	104.22	5768	32.18	8.52	492	314
1979-80	20	84	-	102.8	4078	-	9.00	367	266